

(l) All self-propelled rubber-tired haulage equipment should be equipped with well maintained brakes, lights, and a warning device.

(m) On and after March 30, 1971, all tram control switches on rubber-tired equipment should be designed to provide automatic return to the stop or off position when released.

**§ 75.1403-11 Criteria—Entrances to shafts and slopes.**

All open entrances to shafts should be equipped with safety gates at the top and at each landing. Such gates should be self-closing and should be kept closed except when the cage is at such landing.

**§ 75.1404 Automatic brakes; speed reduction gear.**

[STATUTORY PROVISIONS]

Each locomotive and haulage car used in an underground coal mine shall be equipped with automatic brakes, where space permits. Where space does not permit automatic brakes, locomotives and haulage cars shall be subject to speed reduction gear, or other similar devices approved by the Secretary, which are designed to stop the locomotives and haulage cars with the proper margin of safety.

**§ 75.1404-1 Braking system.**

A locomotive equipped with a dual braking system will be deemed to satisfy the requirements of § 75.1404 for a train comprised of such locomotive and haulage cars, provided the locomotive is operated within the limits of its design capabilities and at speeds consistent with the condition of the haulage road. A trailing locomotive or equivalent devices should be used on trains that are operated on ascending grades.

**§ 75.1405 Automatic couplers.**

[STATUTORY PROVISIONS]

All haulage equipment acquired by an operator of a coal mine on or after March 30, 1971, shall be equipped with automatic couplers which couple by impact and uncouple without the necessity of persons going between the ends of such equipment. All haulage equipment without automatic couplers

in use in a mine on March 30, 1970, shall also be so equipped within 4 years after March 30, 1970.

**§ 75.1405-1 Automatic couplers, haulage equipment.**

The requirement of § 75.1405 with respect to automatic couplers applies only to track haulage cars which are regularly coupled and uncoupled.

WIRE ROPES

SOURCE: Sections 75.1429 through 75.1438 appear at 48 FR 53239, Nov. 25, 1983, unless otherwise noted.

**§ 75.1429 Guide ropes.**

If guide ropes are used in shafts for personnel hoisting applications other than shaft development, the nominal strength (manufacturer's published catalog strength) of the guide rope at installation shall meet the minimum value calculated as follows: Minimum value=Static Load×5.0.

**§ 75.1430 Wire ropes; scope.**

(a) Sections 75.1430 through 75.1438 apply to wire ropes in service used to hoist—

(1) Persons in shafts or slopes underground; or

(2) Loads in shaft or slope development when persons work below the suspended loads.

(b) These standards do not apply to wire ropes used for elevators.

**§ 75.1431 Minimum rope strength.**

At installation, the nominal strength (manufacturer's published catalog strength) of wire ropes used for hoisting shall meet the minimum rope strength values obtained by the following formulas in which "L" equals the maximum suspended rope length in feet:

(a) *Winding drum ropes* (all constructions, including rotation resistant).

For rope lengths less than 3,000 feet:  
Minimum Value=Static Load×(7.0—0.001L)  
For rope lengths 3,000 feet or greater:  
Minimum Value=Static Load×4.0

(b) *Friction drum ropes.*

For rope lengths less than 4,000 feet:  
Minimum Value=Static Load×(7.0—0.0005L)  
For rope lengths 4,000 feet or greater:  
Minimum Value=Static Load×5.0